

### **REMARKS/ARGUMENTS**

Independent claim 1 has been amended to more clearly define applicant's invention and to better distinguish over the cited prior art. Clarifying amendments have also been made to several of the dependent claims. New claims 30 -- 35 have been presented which are directed to several advantageous aspects of the present method. Minor amendments have also been presented in the specification and drawings. Favorable reconsideration by the Examiner is respectfully requested in view of the foregoing amendments and the remarks which follow.

According to the present invention, as defined claim 1, a perforated nonwoven is produced by directing the nonwoven between a first roller having perforation means, such as needles, extending outwardly therefrom and a second roller having an outer surface covered by a felt material. The perforation means engage through the nonwoven and into the felt material of the second roller. The perforation means cause displacing of the fibers of the nonwoven and also form contours in the felt material. Applicant has found that by using a felt covered roller in the perforation method, superior perforation results are achieved. This is especially pronounced when using needle rolls with high needle densities. Better perforation results means that the apertures of the perforations are more clearly defined.

Turning now to the prior art rejection, claims 1, 3, 6, 8 and 9 have been rejected under 35 U.S.C. 102(b) as being anticipated by Karami US patent No. 3,965,906. Applicant submits that this rejection is no longer applicable to claims as now presented. According to the teachings of this reference, a perforation roll 42 is used to perforate nonwoven material. The needles 46 of the perforation roll 42 penetrate the nonwoven and extend into a lower roll 48 having a plurality of metal bristles of 50 projecting outwardly and defining a brush-like surface for the roll. There is no teaching or suggestion of using a felt covered roller.

In the official action, the examiner has relied upon Ciaccia et al. US patent No. 4,257,842 for its teaching of a felt covered roller. It should be noted that this patent is concerned with an embossing process, not with a perforating process. Therefore, persons of ordinary skill in the art dealing with a perforation process would not consider the teachings of this reference to be relevant or applicable. There is nothing in this reference suggesting that the counter roller used

in this embossing process would have any applicability for perforating a nonwoven. Thus, there is nothing which would motivate the person of ordinary skill in the art to apply the teachings of this reference to the perforation process of the Karami patent. Likewise, nothing in Karami provides any reason to expect that the counter roller used in an embossing process would perform acceptably in a perforation process.

Furthermore, Ciaccia refers to a roll made of hard rubber, for instance neoprene, or "paper-wool". It is not at all clear what kind of material is being referred to as "paper-wool". Nothing in the Ciaccia patent indicates that this is a felt material. Additionally, it should be noted that Ciaccia teaches that the lower cylinder is "made of" hard rubber or of paper-wool. Thus this patent does not teach a roller having an outer surface "covered by" a felt material.

For the reasons noted, the teachings of Karami and Ciaccia do not establish a *prime facie* case of obviousness with respect to the invention defined by Claim 1 as now presented.

Likewise, the features set forth in the dependent claims are also not obvious with respect to the cited prior art. For example, claim 5 calls for the felt material of the second roller to be a shrinkable hose, and claim 35 further specifies that the shrinkable hose is mounted over a second roller manufactured of metal. By this arrangement, the felt material layer may be easily replaced without replacing the whole roller. A felt material layer shows improved lifetime and gives better perforation results as discussed above. These aspects are not shown or suggested in the prior art. Claims 6, 7 and 8 give further definition to the structure of the perforations and how they are formed. These aspects are also neither shown nor suggested by the prior art.

Regarding the rejection of claim 5, the Examiner uses McGrew U.S. Pat. No. 5,521,030, but this reference does not disclose a roller equipped with a surface layer at all. It discloses a process for making a holographic embossing tool. In order to imprint a holographic pattern on the surface of a roll, an intermediate layer is formed at the surface of the roll. After the embossing of the pattern, this layer has disappeared. We refer to Figure 1a-1d and to col. 5, lines 38-45.

It has been found that using by a second roller covered with a layer of felt material, this produces a perforated nonwoven with the desired properties in a high production speed using


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simple equipment. None of the references disclose or suggest the combination of features as set forth in the claims as now presented.

Accordingly, favorable reconsideration by the examiner is respectfully requested in light of the foregoing amendments and remarks, and formal notification of the allowability of all claims as now presented is solicited.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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